

**Remarks:**

The December 16, 2004 Official Action has been carefully considered. In view of the amendments submitted herewith and these remarks, favorable reconsideration and allowance of this application are respectfully requested.

At the outset, it is noted that a shortened statutory response period of three (3) months was set in the December 16, 2004 Official Action. The initial response period, therefore expired March 16, 2005. A petition for a one (1) month extension of the response period is presented with this amendment and request for reconsideration, which is being filed before the expiration of the extension period, as April 16, 2005 fell on a Saturday.

In the December 16, 2004 Official Action, the Examiner has maintained the formal objection with respect to the internet address set forth at page 13 of the specification. This informality has been addressed in the present amendment by deleting the internal address in question, as it is considered superfluous.

New claim objections have been raised with respect to claim 15 (recitation of "*S. coelicolor*") and claims 20 (referenced therein to "Fig. 10").

Turning to the substantive aspects of the December 16, 2004 Official Action, the Examiner has maintained the rejection of claims 1, 9, 11, 13, 15 and 19-23 under 35 U.S.C. §112, second paragraph, as allegedly indefinite on the basis that the nature and/or structure of the *scbA* gene for deletion are unclear in the case of *S. lividans*, e.g. in claims 1 and 9, and that the term "homologue" is unclear as to its exact nature, e.g. in claim 15.

The rejection of claims 1, 19, 11, 13, 15 and 19-23 as allegedly failing to comply with the enablement requirement of 35 U.S.C. §112, first paragraph has also been maintained. The examiner adheres to the position that the present specification does not reasonably provide enablement for function deletion of the *scbA* gene, and thus the instant claims are allegedly not enabled to the full extent of their scope.

The examiner has also maintained the rejection of claims 15 and 19-23 under 35 U.S.C. §102(b), as allegedly anticipated by Horinouchi et al. (J. Bacteriol 171: 1206-10 (1989)).

In accordance with the present amendment, any reference to *S. lividans* has been deleted from the claims and the subject matter of claim 19 has been incorporated into claim 15. As a result of this change to the claims, the maintained 35 U.S.C. §112, second paragraph of claims 1, 9, 11, 13, 15 and 19-23, based on alleged indefiniteness, has been overcome.

The introduction into claim 15 of the subject matter of claim 19 provides a complete definition of "homolog" for the purposes of the present invention. Claim 15 relates to a method to identify species of *Streptomyces*, in which the functional deletion of a scbA homolog has the same effect as deletion of scbA in *S. coelicolor*. The method involves deleting a structural homolog of scbA in the test species, precisely to determine whether this has the same effect as deletion of scbA in *S. coelicolor*. To define the homologs functionally, as well as structurally, begs the question that the method is intended to resolve.

Also in accordance with this amendment, claims 1, 9 and 15 have been amended to include language to the effect that the recited functional deletion is effected by introducing a deletion, stop codon or frameshift into the coding sequence of the scbA gene. A support for this amendment is provided in the present specification at page 9, lines 10-30.

The examiner has acknowledged that functional deletion of a gene by deletion is enabled. Essentially the same technique as disclosed in the specification (homologous recombination with a mutated scbA sequence from *S. Coelicolor*, as set forth in example 8 at pages 29-31) can be used to functionally delete a gene, e.g. by introducing a stop codon by insertion or mutation or by introducing a frameshift by insertion. The practice of the invention by such expedients would not require undue experimentation.

The amendment of claim 15 includes a disclaimer of *S. griseus*. Regarding support for this amendment, is noted that the specification discloses that the scbA homolog in *S. griseus* is afsA (see page 4, lines 1 and 2) and that afsA mutants in *S. griseus* are deficient in antibiotic production (see page 2, lines 17-19). This is in contrast to scbA mutants of scbA of *S. coelicolor*, in which antibiotic production is increased. Thus, the present specification provides basis for excluding *S. griscus* from applicants' claim directed to the identification of other Streptomyces species in which deletion of scbA homologs also increase antibiotic production.

In view of the present amendment to claim 13, the maintained 35 U.S.C. §102(b) rejection of claims 15 and 19-23 based on Horinouchi et al. is believed to be overcome.

Claims 15 and 20 have also been amended as suggested by the examiner to overcome the new claim objections noted at page 7 of the December 16, 2004 Official Action.

Entry of the present amendment is respectfully requested, inasmuch as this amendment neither introduces new matter nor requires further examination or search, and the amendment is believed to place the application in condition for allowance. In any event, entry of the present amendment would materially reduce the issues that would need to be addressed upon appeal, should an appeal be necessary in this case.

In view of the present amendment and the foregoing remarks, all of the claims now pending in this application are believed to be in condition for allowance. Accordingly, the issue of the notice of allowance, is in order, and such action is earnestly solicited.

In the event that the fee submitted herewith is insufficient, the Commissioner is hereby authorized to charge

any deficiency to Deposit Account No. 04-1406. A duplicate of this paper is submitted herewith.

Respectfully submitted,

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